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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,250	11/10/2003	William M. Hiatt	2269-5558A US (99-0253.00)	3203
24247	7590	01/26/2005	EXAMINER	
TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110			SHECHTMAN, SEAN P	
			ART UNIT	PAPER NUMBER
			2125	

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/705,250

Applicant(s)

HIATT ET AL.

Examiner

Sean P. Shechtman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/3/04</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. Claims 1-33 are presented for examination. Claim 1 has been amended.

#### ***Information Disclosure Statement***

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. See page 27, paragraph 111 of the instant specification.

#### ***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown or the feature(s) canceled from the claim(s). The substrate handling system comprising of a rotary feed system (claims 2 and 13), the substrate handling system comprising of a linear feed system (claims 3 and 14), and the removing of a substrate from a fabrication site while one or more objects are being fabricated on the substrate (claim 31). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes

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made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

4. The use of the trademarks Genmark, CIBATOOL, 3D systems, Ciba, Accura, Cognex, PatMax, Secomak, have been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology. Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-23 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 3,889,355 to Aronsatein.

Referring to claims 1, 12, and 15, Aronsatein teaches a programmable material consolidation system (Col. 16, lines 1-68), comprising: at least one fabrication site for fabricating

one or more objects (Col. 26, lines 14-19); and a substrate handling system configured to introduce one or more substrates into the at least one fabrication site and remove the one or more substrates from the fabrication site (Col. 26, lines 14-36).

Referring to claims 2 and 13, Aronsatein teaches the programmable material consolidation system of claim 1, wherein the substrate handling system comprises a rotary feed system (Col. 9, lines 1-14).

Referring to claims 3 and 14, Aronsatein teaches the programmable material consolidation system of claim 1, wherein the substrate handling system comprises a linear feed system (Col. 26, lines 14-36).

Referring to claims 4 and 16, Aronsatein teaches the programmable material consolidation system of claim 1, wherein the at least one fabrication site comprises a plurality of fabrication sites (Col. 26, lines 14-36).

Referring to claims 5 and 17, Aronsatein teaches the programmable material consolidation system of claim 4, wherein the substrate handling system is configured to introduce the one or more substrates into each of the plurality of fabrication sites (Col. 26, lines 14-36).

Referring to claims 6 and 18, Aronsatein teaches the programmable material consolidation system of claim 1, further comprising: a cleaning component for cleaning the one or more substrates (Col. 8, lines 65-68).

Referring to claims 7 and 19, Aronsatein teaches the programmable material consolidation system of claim 6, wherein the substrate handling system is configured to transport

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the one or more substrates having at least one feature fabricated thereon from the at least one fabrication site to the cleaning component (Col. 8, lines 65-68).

Referring to claims 8 and 20, Aronsatein teaches the programmable material consolidation system of claim 7, wherein the at least one fabrication site comprises a plurality of fabrication sites (Col. 11, lines 59-68; Col. 18, lines 61-68).

Referring to claims 9 and 21, Aronsatein teaches the programmable material consolidation system of claim 8, wherein the substrate handling system is configured to transport substrates from each of the plurality of fabrication sites to the cleaning component (Col. 11, lines 59-68).

Referring to claims 10 and 22, Aronsatein teaches the programmable material consolidation system of claim 9, further comprising: at least one processing element for controlling operation of the substrate handling system (Col. 24, lines 17-41).

Referring to claims 11 and 23, Aronsatein teaches the programmable material consolidation system of claim 10, wherein the at least one processing element is configured to orchestrate movement of substrates from the plurality of fabrication sites to the cleaning component (Col. 24, lines 17-41).

6. Claims 1, 3-5, 12, 14-17, and 24-28 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 4,027,246 to Caccoma.

Referring to claims 1, 3-5, 12, 14-17, and 24, Caccoma teaches a programmed material consolidation method for fabricating objects (Col. 8, lines 25-34), comprising: selecting at least one first substrate; introducing the at least one first substrate into a first fabrication site with a

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substrate handling system associated therewith; selecting at least one second substrate; and introducing the at least one second substrate into a second fabrication site with the substrate handling system (See Abstract).

Referring to claim 25, Caccoma teaches the method of claim 24, wherein introducing the at least one second substrate is effected while one or more objects are being fabricated on the at least one first substrate (Col. 11, lines 51-55).

Referring to claim 26, Caccoma teaches the method of claim 24, further comprising: selecting at least one third substrate; and introducing the at least one third substrate into a third fabrication site with the substrate handling system (Col. 11, lines 62- Col. 12, line 4).

Referring to claim 27, Caccoma teaches the method of claim 26, wherein introducing the at least one third substrate is effected while one or more objects are being fabricated on both the at least one first substrate and the at least one second substrate (Col. 11, lines 51-55).

Referring to claim 28, Caccoma teaches the method of claim 24, further comprising: removing the at least one first substrate from the first fabrication site with the substrate handling system while one or more objects are being fabricated on the at least one second substrate (Col. 11, lines 51-55).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,027,246 to Caccoma as applied to claims 24-28 above, and further in view of U.S. Pat. No. 3,889,355 to Aronsatein.

Referring to claims 29 and 32, Caccoma teaches all the limitations set forth above, however, fails to clearly teach transporting the a substrate to a cleaning component with the substrate handling system following removing of the substrate. Referring to claims 30 and 33, Caccoma teaches all the limitations set forth above, however, fails to clearly teach introducing another substrate into a fabrication site with the substrate handling system following removing of a substrate. Referring to claim 31, Caccoma teaches all the limitations set forth above, however, fails to clearly teach removing a substrate from a fabrication site with the substrate handling system while an object is being fabricated on both the substrate and another substrate.

However, referring to claims 29-33, the Aronsatein reference is cross referenced by the Caccoma reference and shares a common assignee with Caccoma, teaches analogous art, wherein referring to claims 29 and 32, Aronsatein teaches transporting the a substrate to a cleaning component with the substrate handling system following removing of the substrate (Col. 8, lines 65-68); referring to claims 30 and 33, Aronsatein teaches introducing another substrate into a fabrication site with the substrate handling system following removing of a substrate (Col. 24, lines 17-41); and referring to claim 31, Aronsatein teaches removing a substrate from a fabrication site with the substrate handling system while an object is being fabricated on both the substrate and another substrate (Col. 9, lines 14-49; Col. 10, lines 35-45).

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the teachings of Caccoma with the teachings of Aronsatein,



who's patent is cross referenced several times in Caccoma. One of ordinary skill in the art would have been motivated to combine these references because Aronsatein teaches a complete manufacturing system capable of fast turn-around, maximized yield and low in-process inventory with interdependent minimization of processing cycle time and maximization of completed part yield (Col. 1, lines 4-19).

### *Conclusion*

8. The prior art or art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents or publications are cited to further show the state of the art with respect to a substrate handling system configured to introduce and remove substrates into fabrication sites.

Applicants Admitted Prior Art, Genmark Automation rotary or linear feed system for substrate handling (paragraph 10, paragraph 51).

U.S. Pat. No. 5,789,890 to Genov.

The following patents or publications are cited to further show the state of the art with respect to a rotary wafer handling arm.

U.S. Pat. No. 4,728,252 to Lada.

The following patents or publications are cited to further show the state of the art with respect to blade robot transfer mechanisms in a multiple chamber cluster tool with prioritization of wafer transfer and temporary hold.

U.S. Pat. No. 6,336,204 to Jevtic.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Shechtman whose telephone number is (571) 272-3754.

The examiner can normally be reached on 9:30am-6:00pm, M-F.

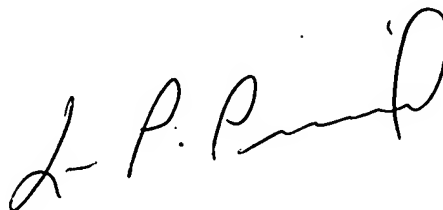
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SPS

Sean P. Shechtman

January 11, 2005

A handwritten signature in black ink, appearing to read "L. P. Picard", with a stylized flourish at the end.

**LEO PICARD  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100**